SEQUENCE LISTING

<110> CHUGAI SEIYAKU KABUSHIKI KAISHA

<120> Therapeutic agent for chondroma and/or chondrosarcoma

<130> PH-1865-PCT

<150> JP 2002-334081
<151> 2002-11-18

<160> 85

<170> PatentIn Ver. 2.1

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<223> Inventor; Yoshikawa, Hideki; Miyaji, Takahiro

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caggaaacag ctatgac 17

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<223> Description of Artificial Sequence:Synthetic DNA

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acagctcccg ggtagaagtc actgatcaga cacactagtg tggccttgtt 110

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<223> Description of Artificial Sequence:Synthetic DNA

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catgcgtgac ctggcagctg tagcttctgt gggacttcca ctgctc 106

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<212> DNA

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<400> 16

tgttgaattc ttactatgaa 20

<210> 17

<211> 39

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<223> Description of Artificial Sequence:Synthetic DNA

<400> 17

caacaagtac gcggccagca gctacctgag cctgacgcc 39

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<212> DNA

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<210> 19

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<212> DNA

<213> Artificial Sequence

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<210> 20

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<223> Description of Artificial Sequence:Synthetic DNA

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<210> 21

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<212> DNA

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<223> Description of Artificial Sequence:Synthetic DNA

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gtctaagctt ccaccatggc ctggactcct ctctt 35

<210> 22

<211> 48

<212> DNA

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<223> Description of Artificial Sequence:Synthetic DNA

<400> 22

tgttgaattc agatctaact acttacctag gacagtgacc ttggtccc 48

<210> 23

<211> 128

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Synthetic DNA

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tccctgag 128

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<212> DNA

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<223> Description of Artificial Sequence:Synthetic DNA

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gacac 125

<210> 25

<211> 132

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Synthetic DNA

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caagacatgc catagctact gaaggtgaat ccagaggctg cacaggagag tctcagggac 120

ctcccaggct gg 132

<210> 26

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<212> DNA

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<223> Description of Artificial Sequence:Synthetic DNA

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tgttggatcc ctgaggagac ggtgaccagg gttccctggc cccagtaagc aaagtaagtc 60

atagtagtct gtctcgcaca gtaatacaca gccgtgtcct cagctctcag 110

<210> 27

<211> 30

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Synthetic DNA

<400> 27

gtctaagctt ccaccatggg gtttgggctg 30

<210> 28

<211> 30

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<223> Description of Artificial Sequence:Synthetic DNA

<400> 28

tgttggatcc ctgaggagac ggtgaccagg 30

<210> 29

<211> 133

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Synthetic DNA

<400> 29

acaaagcttc caccatggcc tggactcctc tcttcttctt ctttgttctt cattgctcag 60

gttctttctc ccagcttgtg ctgactcaat cgccctctgc ctctgcctcc ctgggagcct 120

cggtcaagct cac 133

<210> 30

<211> 118

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Synthetic DNA

<400> 30

agcaagatgg aagccacagc acaggtgatg ggattcctga tcgcttctca ggctccagct 60

ctggggctga gcgctacctc accatctcca gcctccagtc tgaggatgag gctgacta 118

<210> 31

<211> 128

<212> DNA

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<223> Description of Artificial Sequence:Synthetic DNA

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ctgtggcttc catcttgctt aagtttcatc aagtaccgag ggcccttctc tggctgctgc 60

tgatgccatt caatggtgta cgtactgtgc tgactactca aggtgcaggt gagcttgacc 120

gaggctcc 128

<210> 32

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<212> DNA

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<223> Description of Artificial Sequence:Synthetic DNA

<400> 32

cttggatccg ggctgaccta ggacggtcag tttggtccct ccgccgaaca ccctcacaaa 60

ttgttcctta attgtatcac ccacaccaca gtaatagtca gcctcatcct caga 114

<210> 33

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 33

acaaagcttc caccatg 17

<210> 34

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 34

cttggatccg ggctgacct 19

<210> 35

<211> 75

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Synthetic DNA

<400> 35

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ttgttcctta attgt 75

<210> 36

<211> 43

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Synthetic DNA

<400> 36

aaaggatcct taagatccat caagtaccga gggggcttct ctg 43

<210> 37

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 37

acaaagctta gcgctacctc accatctcca gcctccagcc tgagga 46

<210> 38

<211> 111

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 38

cttggatccg ggctgaccta ggacggtcag tttggtccct ccgccgaaca cgtacacaaa 60

ttgttcctta attgtatcac ccacaccaca gatatagtca gcctcatcct c 111

<210> 39

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 39

cttctctggc tgctgctgat accattcaat ggtgtacgta ct 42

<210> 40

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 40

cgagggccct tctctggctg ctgctg 26

<210> 41

<211> 35

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Synthetic DNA

<400> 41

gagaagggcc ctargtacst gatgrawctt aagca 35

<210> 42

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 42

cacgaattca ctatcgattc tggaaccttc agagg 35

<210> 43

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 43

ggcttggagc tcctcaga 18

<210> 44

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 44

gacagtggtt caaagttttt 20

<210> 45

<211> 118

<212> PRT

<213> Mus musculus

<400> 45

Gln Leu Val Leu Thr Gln Ser Ser Ser Ala Ser Phe Ser Leu Gly Ala
1 5 10 15

Ser Ala Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser Thr Tyr Thr
20 25 30

Ile Glu Trp Tyr Gln Gln Gln Pro Leu Lys Pro Pro Lys Tyr Val Met
35 40 45

Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly Ile Pro Asp
50 55 60

Arg Phe Ser Gly Ser Ser Ser Gly Ala Asp Arg Tyr Leu Ser Ile Ser
65 70 75 80

Asn Ile Gln Pro Glu Asp Glu Ala Met Tyr Ile Cys Gly Val Gly Asp
85 90 95

Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly Thr Lys Val
100 105 110

Thr Val Leu Gly Gln Pro
115

<210> 46

<211> 118

<212> PRT

<213> Mus musculus

<400> 46

Glu Val Gln Leu Val Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Gly

1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr

20 25 30

Gly Met Ser Trp Ile Arg Gln Thr Pro Asp Lys Arg Leu Glu Trp Val

35 40 45

Ala Thr Ile Ser Ser Gly Gly Ser Tyr Thr Tyr Tyr Pro Asp Ser Val

50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr

65 70 75 80

Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Met Phe Tyr Cys

85 90 95

Ala Arg Gln Thr Thr Met Thr Tyr Phe Ala Tyr Trp Gly Gln Gly Thr

100 105 110

Leu Val Thr Val Ser Ala

115

<210> 47

<211> 116

<212> PRT

<213> Homo sapiens

<400> 47

Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala

1 5 10 15

Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser Thr Tyr Thr

20 25 30

Ile Glu Trp His Gln Gln Gln Pro Glu Lys Gly Pro Arg Tyr Leu Met

35 40 45

Lys Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly Ile Pro Asp

50 55 60

Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
65 70 75 80

Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Val Gly Asp
85 90 95

Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly Thr Lys Leu
100 105 110

Thr Val Leu Gly
115

<210> 48

<211> 118

<212> PRT

<213> Homo sapiens

<400> 48

Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala
1 5 10 15

Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser Thr Tyr Thr
20 25 30

Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Lys Tyr Leu Met
35 40 45

Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly Ile Pro Asp
50 55 60

Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
65 70 75 80

Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Val Gly Asp
85 90 95

Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly Thr Lys Leu
100 105 110
Thr Val Leu Gly Gln Pro
115

<210> 49
<211> 118
<212> PRT
<213> Homo sapiens

<400> 49
Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala
1 5 10 15
Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser Thr Tyr Thr
20 25 30
Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Lys Tyr Val Met
35 40 45
Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly Ile Pro Asp
50 55 60
Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
65 70 75 80
Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Val Gly Asp
85 90 95
Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly Thr Lys Leu
100 105 110
Thr Val Leu Gly Gln Pro
115

<210> 50

<211> 118

<212> PRT

<213> Homo sapiens

<400> 50

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Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala
  1               5                  10                  15
Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser Thr Tyr Thr
             20                  25                  30
Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Arg Tyr Leu Met
         35                  40                  45
Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly Ile Pro Asp
     50                  55                  60
Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
 65                  70                  75                  80
Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Val Gly Asp
                 85                  90                  95
Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly Thr Lys Leu
            100                 105                 110
Thr Val Leu Gly Gln Pro
        115
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<210> 51

<211> 118

<212> PRT

<213> Homo sapiens

<400> 51

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Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala
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1 5 10 15

Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser Thr Tyr Thr

20 25 30

Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Arg Tyr Val Met

35 40 45

Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly Ile Pro Asp

50 55 60

Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser

65 70 75 80

Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Val Gly Asp

85 90 95

Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly Thr Lys Leu

100 105 110

Thr Val Leu Gly Gln Pro

115

<210> 52

<211> 118

<212> PRT

<213> Homo sapiens

<400> 52

Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala

1 5 10 15

Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser Thr Tyr Thr

20 25 30

Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Lys Tyr Leu Met

35 40 45

Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly Ile Pro Asp

50 55 60

Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
65 70 75 80

Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Ile Cys Gly Val Gly Asp
85 90 95

Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly Thr Lys Leu
100 105 110

Thr Val Leu Gly Gln Pro
115

<210> 53

<211> 118

<212> PRT

<213> Homo sapiens

<400> 53

Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala
1 5 10 15

Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser Thr Tyr Thr
20 25 30

Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Arg Tyr Leu Met
35 40 45

Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly Ile Pro Asp
50 55 60

Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
65 70 75 80

Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Ile Cys Gly Val Gly Asp
85 90 95

Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly Thr Lys Leu

100 105 110

Thr Val Leu Gly Gln Pro
115

<210> 54

<211> 118

<212> PRT

<213> Homo sapiens

<400> 54

Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala
1 5 10 15

Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser Thr Tyr Thr
20 25 30

Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Lys Tyr Val Met
35 40 45

Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly Ile Pro Asp
50 55 60

Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
65 70 75 80

Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Ile Cys Gly Val Gly Asp
85 90 95

Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly Thr Lys Leu
100 105 110

Thr Val Leu Gly Gln Pro
115

<210> 55

<211> 118

<212> PRT

<213> Homo sapiens

<400> 55

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Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala
 1               5                  10                  15
Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser Thr Tyr Thr
            20                  25                  30
Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Arg Tyr Val Met
        35                  40                  45
Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly Ile Pro Asp
    50                  55                  60
Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
65                  70                  75                  80
Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Ile Cys Gly Val Gly Asp
                85                  90                  95
Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly Thr Lys Leu
            100                 105                 110
Thr Val Leu Gly Gln Pro
        115
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<210> 56

<211> 118

<212> PRT

<213> Homo sapiens

<400> 56

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Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1               5                  10                  15
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Thr Ile Ser Ser Gly Gly Ser Tyr Thr Tyr Tyr Pro Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Gln Thr Thr Met Thr Tyr Phe Ala Tyr Trp Gly Gln Gly Thr
100 105 110
Leu Val Thr Val Ser Ser
115

<210> 57
<211> 411
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)..(411)

<220>
<221> mat_peptide
<222> (58)..(411)

<400> 57

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Met Asn Phe Gly Leu Ser Leu Ile Phe Leu Ala Leu Ile Leu Lys Gly
                -15                 -10                 -5

gtc cag tgt gag gtg caa ctg gtg gag tct ggg gga gac tta gtg aag   96
Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Asp Leu Val Lys
        -1   1               5                  10

cct gga ggg tcc ctg aaa ctc tcc tgt gca gcc tct gga ttc act ttc   144
Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
    15                  20                  25

agt agc tat ggc atg tct tgg att cgc cag act cca gac aag agg ctg   192
Ser Ser Tyr Gly Met Ser Trp Ile Arg Gln Thr Pro Asp Lys Arg Leu
30                  35                  40                  45

gag tgg gtc gca acc att agt agt ggt ggt agt tac acc tac tat cca   240
Glu Trp Val Ala Thr Ile Ser Ser Gly Gly Ser Tyr Thr Tyr Tyr Pro
                50                  55                  60

gac agt gtg aag ggg cga ttc acc atc tcc aga gac aat gcc aag aac   288
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
            65                  70                  75

acc cta tac ctg caa atg agc agt ctg aag tct gag gac aca gcc atg   336
Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Met
        80                  85                  90

ttt tac tgt gca aga cag act act atg act tac ttt gct tac tgg ggc   384
Phe Tyr Cys Ala Arg Gln Thr Thr Met Thr Tyr Phe Ala Tyr Trp Gly
    95                  100                 105

caa ggg act ctg gtc act gtc tct gca                              411
Gln Gly Thr Leu Val Thr Val Ser Ala
110                 115
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<210> 58

<211> 411

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(411)

<220>

<221> mat_peptide

<222> (58)..(411)

<400> 58

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atg ggg ttt ggg ctg agc tgg gtt ttc ctc gtt gct ctt tta aga ggt   48
Met Gly Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly
                -15                 -10                 -5

gtc cag tgt cag gtg cag ctg gtg gag tct ggg gga ggc gtg gtc cag   96
Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
        -1   1               5                  10

cct ggg agg tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc   144
Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
    15                  20                  25

agt agc tat ggc atg tct tgg gtc cgc cag gct cca ggc aag ggg ctg   192
Ser Ser Tyr Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
30                  35                  40                  45

gag tgg gtg gca acc att agt agt ggt ggt agt tac acc tac tat cca   240
Glu Trp Val Ala Thr Ile Ser Ser Gly Gly Ser Tyr Thr Tyr Tyr Pro
                50                  55                  60

gac agt gtg aag ggg cga ttc acc atc tcc aga gac aat tcc aag aac   288
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Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
65 70 75

acg ctg tat ctg caa atg aac agc ctg aga gct gag gac acg gct gtg 336
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
80 85 90

tat tac tgt gcg aga cag act act atg act tac ttt gct tac tgg ggc 384
Tyr Tyr Cys Ala Arg Gln Thr Thr Met Thr Tyr Phe Ala Tyr Trp Gly
95 100 105

cag gga acc ctg gtc acc gtc tcc tca 411
Gln Gly Thr Leu Val Thr Val Ser Ser
110 115

<210> 59
<211> 11
<212> PRT
<213> Homo sapiens

<400> 59
Lys Ala Ser Gln Asp Val Asn Thr Ala Val Ala
1 5 10

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<211> 7
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<213> Homo sapiens

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Ser Ala Ser Asn Arg Tyr Thr
1 5

<210> 61

<211> 9

<212> PRT

<213> Homo sapiens

<400> 61

Gln Gln His Tyr Ser Thr Pro Phe Thr

1 5

<210> 62

<211> 5

<212> PRT

<213> Homo sapiens

<400> 62

Pro Tyr Trp Met Gln

1 5

<210> 63

<211> 16

<212> PRT

<213> Homo sapiens

<400> 63

Ser Ile Phe Gly Asp Gly Asp Thr Arg Tyr Ser Gln Lys Phe Lys Gly

1 5 10 15

<210> 64

<211> 11

<212> PRT

<213> Homo sapiens

<400> 64

Gly Leu Arg Arg Gly Gly Tyr Tyr Phe Asp Tyr
1 5 10

<210> 65

<211> 411

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (1)..(411)

<220>

<221> mat_peptide

<222> (58)..(411)

<400> 65

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tct ttc tcc caa ctt gtg ctc act cag tca tct tca gcc tct ttc tcc 96
Ser Phe Ser Gln Leu Val Leu Thr Gln Ser Ser Ser Ala Ser Phe Ser
-1 1 5 10

ctg gga gcc tca gca aaa ctc acg tgc acc ttg agt agt cag cac agt 144

Leu Gly Ala Ser Ala Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser
15 20 25

acg tac acc att gaa tgg tat cag caa cag cca ctc aag cct cct aag 192
Thr Tyr Thr Ile Glu Trp Tyr Gln Gln Gln Pro Leu Lys Pro Pro Lys
30 35 40 45

tat gtg atg gat ctt aag caa gat gga agc cac agc aca ggt gat ggg 240
Tyr Val Met Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly
50 55 60

att cct gat cgc ttc tct gga tcc agc tct ggt gct gat cgc tac ctt 288
Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Ala Asp Arg Tyr Leu
65 70 75

agc att tcc aac atc cag cca gaa gat gaa gca atg tac atc tgt ggt 336
Ser Ile Ser Asn Ile Gln Pro Glu Asp Glu Ala Met Tyr Ile Cys Gly
80 85 90

gtg ggt gat aca att aag gaa caa ttt gtg tat gtt ttc ggc ggt ggg 384
Val Gly Asp Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly
95 100 105

acc aag gtc act gtc cta ggt cag ccc 411
Thr Lys Val Thr Val Leu Gly Gln Pro
110 115

<210> 66
<211> 411
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)..(411)

<220>

<221> mat_peptide

<222> (58)..(411)

<400> 66

atg gcc tgg act cct ctc ttc ttc ttt gtt ctt cat tgc tca ggt 48
Met Ala Trp Thr Pro Leu Phe Phe Phe Val Leu His Cys Ser Gly
-15 -10 -5

tct ttc tcc cag ctt gtg ctg act caa tcg ccc tct gcc tct gcc tcc 96
Ser Phe Ser Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser
-1 1 5 10

ctg gga gcc tcg gtc aag ctc acc tgc acc ttg agt agt cag cac agt 144
Leu Gly Ala Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser
15 20 25

acg tac acc att gaa tgg cat cag cag cag cca gag aag ggc cct cgg 192
Thr Tyr Thr Ile Glu Trp His Gln Gln Gln Pro Glu Lys Gly Pro Arg
30 35 40 45

tac ttg atg aaa ctt aag caa gat gga agc cac agc aca ggt gat ggg 240
Tyr Leu Met Lys Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly
50 55 60

att cct gat cgc ttc tca ggc tcc agc tct ggg gct gag cgc tac ctc 288
Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu
65 70 75

acc atc tcc agc ctc cag tct gag gat gag gct gac tat tac tgt ggt 336
Thr Ile Ser Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly
80 85 90

gtg ggt gat aca att aag gaa caa ttt gtg tac gtg ttc ggc gga ggg 384
Val Gly Asp Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly

95 100 105

acc aaa ctg acc gtc cta ggt cag ccc 411
Thr Lys Leu Thr Val Leu Gly Gln Pro
110 115

<210> 67
<211> 411
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(411)

<220>
<221> mat_peptide
<222> (58)..(411)

<400> 67
atg gcc tgg act cct ctc ttc ttc ttt gtt ctt cat tgc tca ggt 48
Met Ala Trp Thr Pro Leu Phe Phe Phe Phe Val Leu His Cys Ser Gly
-15 -10 -5

tct ttc tcc cag ctt gtg ctg act caa tcg ccc tct gcc tct gcc tcc 96
Ser Phe Ser Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser
-1 1 5 10

ctg gga gcc tcg gtc aag ctc acc tgc acc ttg agt agt cag cac agt 144
Leu Gly Ala Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser
15 20 25

acg tac acc att gaa tgg tat cag cag cag cca gag aag ggc cct aag 192

Thr Tyr Thr Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Lys
30 35 40 45

tac ctg atg gat ctt aag caa gat gga agc cac agc aca ggt gat ggg 240
Tyr Leu Met Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly
50 55 60

att cct gat cgc ttc tca ggc tcc agc tct ggg gct gag cgc tac ctc 288
Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu
65 70 75

acc atc tcc agc ctc cag tct gag gat gag gct gac tat tac tgt ggt 336
Thr Ile Ser Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly
80 85 90

gtg ggt gat aca att aag gaa caa ttt gtg tac gtg ttc ggc gga ggg 384
Val Gly Asp Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly
95 100 105

acc aaa ctg acc gtc cta ggc cag ccc 411
Thr Lys Leu Thr Val Leu Gly Gln Pro
110 115

<210> 68
<211> 411
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)..(411)

<220>
<221> mat_peptide

<222> (58)..(411)

<400> 68

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atg gcc tgg act cct ctc ttc ttc ttt gtt ctt cat tgc tca ggt   48
Met Ala Trp Thr Pro Leu Phe Phe Phe Val Leu His Cys Ser Gly
                -15                 -10                 -5

tct ttc tcc cag ctt gtg ctg act caa tcg ccc tct gcc tct gcc tcc   96
Ser Phe Ser Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser
        -1   1               5                  10

ctg gga gcc tcg gtc aag ctc acc tgc acc ttg agt agt cag cac agt   144
Leu Gly Ala Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser
    15                  20                  25

acg tac acc att gaa tgg tat cag cag cag cca gag aag ggc cct aag   192
Thr Tyr Thr Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Lys
30                  35                  40                  45

tac gtg atg gat ctt aag caa gat gga agc cac agc aca ggt gat ggg   240
Tyr Val Met Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly
                50                  55                  60

att cct gat cgc ttc tca ggc tcc agc tct ggg gct gag cgc tac ctc   288
Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu
            65                  70                  75

acc atc tcc agc ctc cag tct gag gat gag gct gac tat tac tgt ggt   336
Thr Ile Ser Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly
        80                  85                  90

gtg ggt gat aca att aag gaa caa ttt gtg tac gtg ttc ggc gga ggg   384
Val Gly Asp Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly
    95                  100                 105

acc aaa ctg acc gtc cta ggc cag ccc                              411
Thr Lys Leu Thr Val Leu Gly Gln Pro
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110 115

<210> 69

<211> 411

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(411)

<220>

<221> mat_peptide

<222> (58)..(411)

<400> 69

atg gcc tgg act cct ctc ttc ttc ttt gtt ctt cat tgc tca ggt 48
Met Ala Trp Thr Pro Leu Phe Phe Phe Val Leu His Cys Ser Gly
-15 -10 -5

tct ttc tcc cag ctt gtg ctg act caa tcg ccc tct gcc tct gcc tcc 96
Ser Phe Ser Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser
-1 1 5 10

ctg gga gcc tcg gtc aag ctc acc tgc acc ttg agt agt cag cac agt 144
Leu Gly Ala Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser
15 20 25

acg tac acc att gaa tgg tat cag cag cag cca gag aag ggc cct agg 192
Thr Tyr Thr Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Arg
30 35 40 45

tac ctg atg gat ctt aag caa gat gga agc cac agc aca ggt gat ggg 240

Tyr Leu Met Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly
50 55 60

att cct gat cgc ttc tca ggc tcc agc tct ggg gct gag cgc tac ctc 288
Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu
65 70 75

acc atc tcc agc ctc cag tct gag gat gag gct gac tat tac tgt ggt 336
Thr Ile Ser Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly
80 85 90

gtg ggt gat aca att aag gaa caa ttt gtg tac gtg ttc ggc gga ggg 384
Val Gly Asp Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly
95 100 105

acc aaa ctg acc gtc cta ggc cag ccc 411
Thr Lys Leu Thr Val Leu Gly Gln Pro
110 115

<210> 70
<211> 411
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)..(411)

<220>
<221> mat_peptide
<222> (58)..(411)

<400> 70

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Met Ala Trp Thr Pro Leu Phe Phe Phe Val Leu His Cys Ser Gly
                -15                 -10                 -5

tct ttc tcc cag ctt gtg ctg act caa tcg ccc tct gcc tct gcc tcc   96
Ser Phe Ser Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser
        -1   1               5                  10

ctg gga gcc tcg gtc aag ctc acc tgc acc ttg agt agt cag cac agt   144
Leu Gly Ala Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser
    15                  20                  25

acg tac acc att gaa tgg tat cag cag cag cca gag aag ggc cct agg   192
Thr Tyr Thr Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Arg
30                  35                  40                  45

tac gtg atg gat ctt aag caa gat gga agc cac agc aca ggt gat ggg   240
Tyr Val Met Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly
                50                  55                  60

att cct gat cgc ttc tca ggc tcc agc tct ggg gct gag cgc tac ctc   288
Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu
            65                  70                  75

acc atc tcc agc ctc cag tct gag gat gag gct gac tat tac tgt ggt   336
Thr Ile Ser Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly
        80                  85                  90

gtg ggt gat aca att aag gaa caa ttt gtg tac gtg ttc ggc gga ggg   384
Val Gly Asp Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly
    95                  100                 105

acc aaa ctg acc gtc cta ggc cag ccc                              411
Thr Lys Leu Thr Val Leu Gly Gln Pro
110                 115
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<210> 71

<211> 411

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(411)

<220>

<221> mat_peptide

<222> (58)..(411)

<400> 71

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Met Ala Trp Thr Pro Leu Phe Phe Phe Val Leu His Cys Ser Gly
                -15                 -10                 -5

tct ttc tcc cag ctt gtg ctg act caa tcg ccc tct gcc tct gcc tcc   96
Ser Phe Ser Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser
        -1   1                5                  10

ctg gga gcc tcg gtc aag ctc acc tgc acc ttg agt agt cag cac agt   144
Leu Gly Ala Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser
    15                  20                  25

acg tac acc att gaa tgg tat cag cag cag cca gag aag ggc cct aag   192
Thr Tyr Thr Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Lys
30                  35                  40                  45

tac ctg atg gat ctt aag caa gat gga agc cac agc aca ggt gat ggg   240
Tyr Leu Met Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly
                50                  55                  60

att cct gat cgc ttc tca ggc tcc agc tct ggg gct gag cgc tac ctc   288
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Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu
65 70 75

acc atc tcc agc ctc cag tct gag gat gag gct gac tat atc tgt ggt 336
Thr Ile Ser Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Ile Cys Gly
80 85 90

gtg ggt gat aca att aag gaa caa ttt gtg tac gtg ttc ggc gga ggg 384
Val Gly Asp Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly
95 100 105

acc aaa ctg acc gtc cta ggc cag ccc 411
Thr Lys Leu Thr Val Leu Gly Gln Pro
110 115

<210> 72
<211> 411
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(411)

<220>
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<222> (58)..(411)

<400> 72
atg gcc tgg act cct ctc ttc ttc ttt gtt ctt cat tgc tca ggt 48
Met Ala Trp Thr Pro Leu Phe Phe Phe Val Leu His Cys Ser Gly
-15 -10 -5

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tct ttc tcc cag ctt gtg ctg act caa tcg ccc tct gcc tct gcc tcc   96
Ser Phe Ser Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser
         -1   1                   5                  10

ctg gga gcc tcg gtc aag ctc acc tgc acc ttg agt agt cag cac agt   144
Leu Gly Ala Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser
     15                  20                  25

acg tac acc att gaa tgg tat cag cag cag cca gag aag ggc cct agg   192
Thr Tyr Thr Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Arg
 30                  35                  40                  45

tac ctg atg gat ctt aag caa gat gga agc cac agc aca ggt gat ggg   240
Tyr Leu Met Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly
                 50                  55                  60

att cct gat cgc ttc tca ggc tcc agc tct ggg gct gag cgc tac ctc   288
Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu
             65                  70                  75

acc atc tcc agc ctc cag tct gag gat gag gct gac tat atc tgt ggt   336
Thr Ile Ser Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Ile Cys Gly
         80                  85                  90

gtg ggt gat aca att aag gaa caa ttt gtg tac gtg ttc ggc gga ggg   384
Val Gly Asp Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly
     95                  100                 105

acc aaa ctg acc gtc cta ggc cag ccc                              411
Thr Lys Leu Thr Val Leu Gly Gln Pro
110                 115
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<210> 73

<211> 411

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(411)

<220>

<221> mat_peptide

<222> (58)..(411)

<400> 73

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Met Ala Trp Thr Pro Leu Phe Phe Phe Val Leu His Cys Ser Gly
-15 -10 -5

tct ttc tcc cag ctt gtg ctg act caa tcg ccc tct gcc tct gcc tcc 96
Ser Phe Ser Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser
-1 1 5 10

ctg gga gcc tcg gtc aag ctc acc tgc acc ttg agt agt cag cac agt 144
Leu Gly Ala Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser
15 20 25

acg tac acc att gaa tgg tat cag cag cag cca gag aag ggc cct aag 192
Thr Tyr Thr Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Lys
30 35 40 45

tac gtg atg gat ctt aag caa gat gga agc cac agc aca ggt gat ggg 240
Tyr Val Met Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly
50 55 60

att cct gat cgc ttc tca ggc tcc agc tct ggg gct gag cgc tac ctc 288
Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu
65 70 75

acc atc tcc agc ctc cag tct gag gat gag gct gac tat atc tgt ggt 336

Thr Ile Ser Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Ile Cys Gly
80 85 90

gtg ggt gat aca att aag gaa caa ttt gtg tac gtg ttc ggc gga ggg 384
Val Gly Asp Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly
95 100 105

acc aaa ctg acc gtc cta ggc cag ccc 411
Thr Lys Leu Thr Val Leu Gly Gln Pro
110 115

<210> 74
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<212> DNA
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<220>
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<220>
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<222> (58)..(411)

<400> 74
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Met Ala Trp Thr Pro Leu Phe Phe Phe Val Leu His Cys Ser Gly
-15 -10 -5

tct ttc tcc cag ctt gtg ctg act caa tcg ccc tct gcc tct gcc tcc 96
Ser Phe Ser Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser
-1 1 5 10

ctg gga gcc tcg gtc aag ctc acc tgc acc ttg agt agt cag cac agt 144
Leu Gly Ala Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Ser
15 20 25

acg tac acc att gaa tgg tat cag cag cag cca gag aag ggc cct agg 192
Thr Tyr Thr Ile Glu Trp Tyr Gln Gln Gln Pro Glu Lys Gly Pro Arg
30 35 40 45

tac gtg atg gat ctt aag caa gat gga agc cac agc aca ggt gat ggg 240
Tyr Val Met Asp Leu Lys Gln Asp Gly Ser His Ser Thr Gly Asp Gly
50 55 60

att cct gat cgc ttc tca ggc tcc agc tct ggg gct gag cgc tac ctc 288
Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu
65 70 75

acc atc tcc agc ctc cag tct gag gat gag gct gac tat atc tgt ggt 336
Thr Ile Ser Ser Leu Gln Ser Glu Asp Glu Ala Asp Tyr Ile Cys Gly
80 85 90

gtg ggt gat aca att aag gaa caa ttt gtg tac gtg ttc ggc gga ggg 384
Val Gly Asp Thr Ile Lys Glu Gln Phe Val Tyr Val Phe Gly Gly Gly
95 100 105

acc aaa ctg acc gtc cta ggc cag ccc 411
Thr Lys Leu Thr Val Leu Gly Gln Pro
110 115

<210> 75
<211> 34
<212> PRT
<213> Homo sapiens

<400> 75
Ala Val Ser Glu His Gln Leu Leu His Asp Lys Gly Lys Ser Ile Gln

1 5 10 15

Asp Leu Arg Arg Arg Phe Phe Leu His His Leu Ile Ala Glu Ile His

20 25 30

Thr Ala

<210> 76

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 76

cagatgcacc tgacgccctt 20

<210> 77

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 77

cccagccgtg gttatcctgg a 21

<210> 78

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 78

gtccaccaag aagctgagcg 20

<210> 79

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 79

ttggtgcaca gggccttgag 20

<210> 80

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 80

caggaaaacc aggtctcgat g 21

<210> 81

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 81

ttgaggccct tagttgctat g 21

<210> 82

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 82

agagtgctgc cccatctgcc caactgacct 30

<210> 83

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 83

cattactccc aactgggcgc caccagcctt 30

<210> 84

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 84

cggactcgtc atactcctgc tt 22

<210> 85

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 85

cactcttcca gccttccttc c 21